U.S. Army
Manpower Model Development
Methodology Overview

Overview

- Manpower Modeling is a subset of overarching manpower requirements determination analysis process
  - Requirements: Human resources needed to accomplish specified workloads in organizations

- Recent updates in modeling methodology expand analytical toolbox
  - AR 570-5 (MS-3) rescinded in Aug 2008
  - New methodology enables flexible use of many different techniques

- New approach will lead to improved products
  - Support tools to inform resource decisions
  - Sensitivity analyses – "what-if" drills
  - Better understanding of manpower-workload relationships
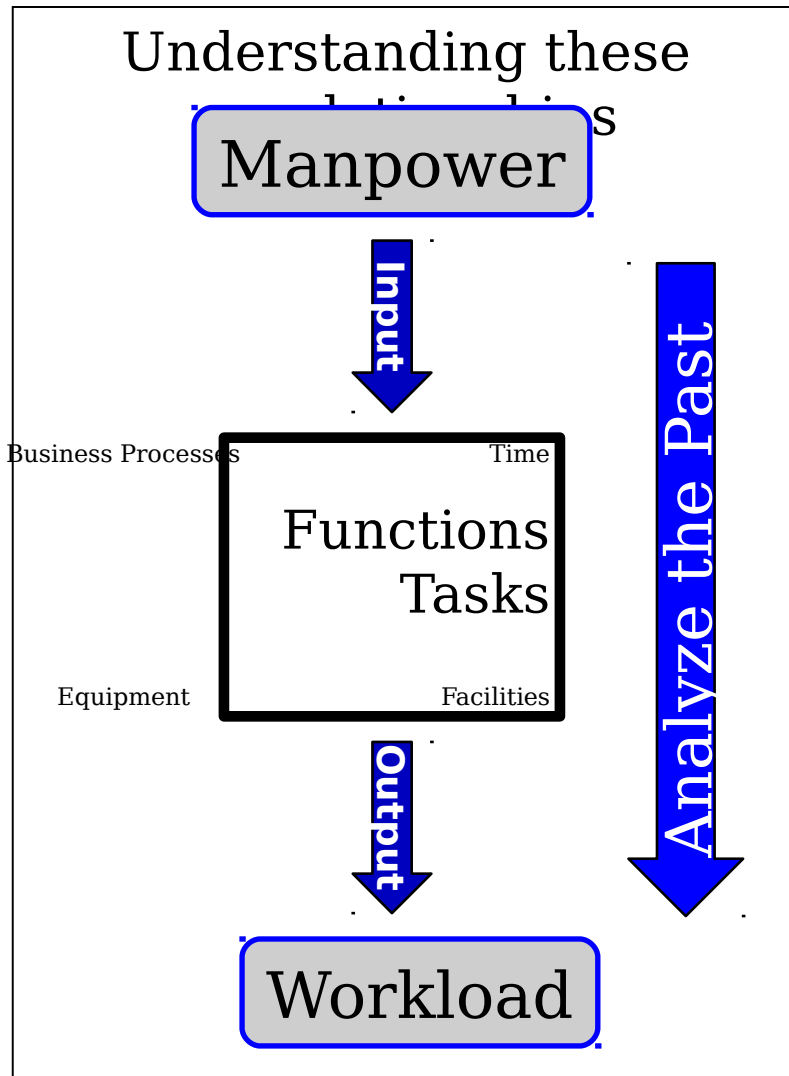
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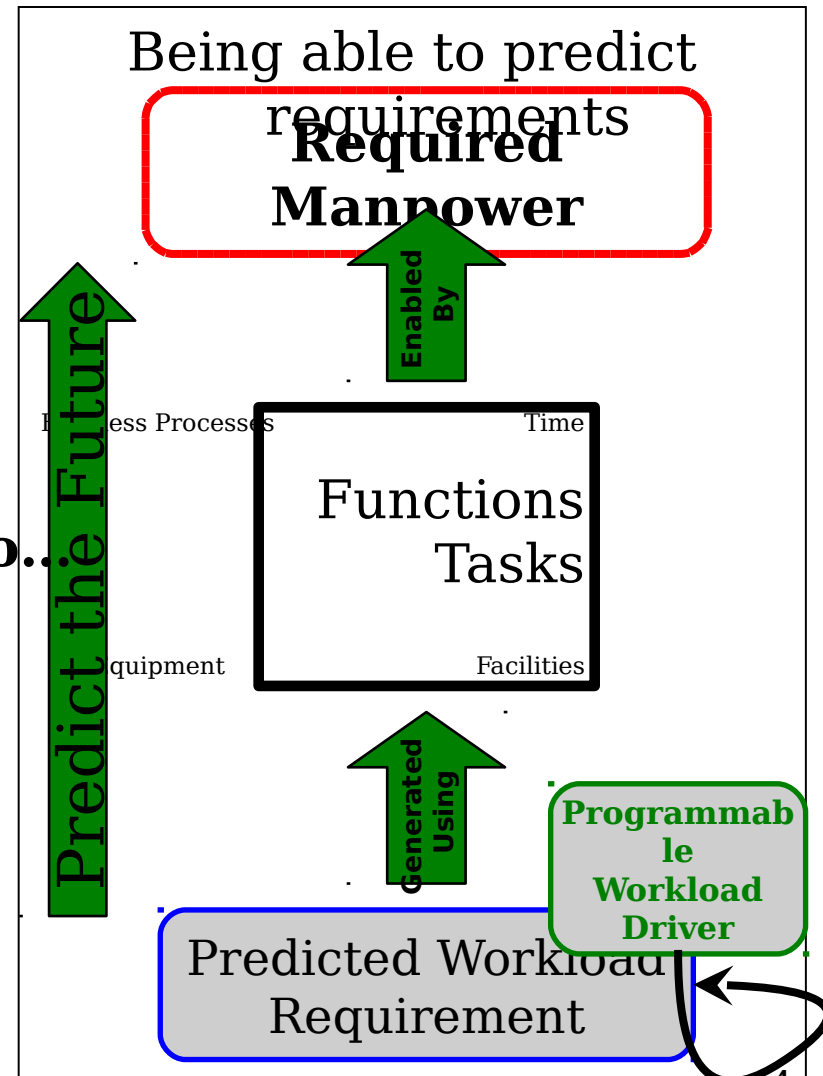# *Elements of Manpower Requirements Analysis*

- Manpower requirements analysis answers a standard set of 7 questions
    1. What work/functions/tasks are required by an organization?
    2. Why does the organization do that work?
    3. How is it done?
    4. How often does the organization have to do the work?
    5. What external decision/factor drives this frequency?
    6. How long do the tasks take to accomplish?
    7. What influences the time?

- Data collection to find the answers…depends on the organization
    - Interviews
    - Authoritative data sources, e.g.:
        - ASIP – Army Stationing and Installation Plan
        - POM – Program Objective Memorandum
        - IGARS – IG Assistance Reporting System

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Ultimate Goal of Manpower Analysis

Understanding these relationships

Manpower

↓ Input

Business Processes		Time
	Functions Tasks	
Equipment		Facilities

↓ Output

Workload

← Analyze the Past →

Leads to...

Being able to predict requirements

Required Manpower

↑ Enabled By

Business Processes		Time
	Functions Tasks	
Equipment		Facilities

↑ Generated Using

Predicted Workload Requirement

← Predict the Future →

Programmable Workload Driver

Results of Manpower Requirements Analysis

- Creates an understanding of the relationships between manpower and workload

- Generates output of recommended staffing levels

- Recommendations can take on many forms:
  - Organizational charts
  - Allocation Rules
  - Templates
  - Workload driven manpower requirements
  - Process Mapping
  - Streamlined organizational functions and throughput

All are models!

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- A <u>tool</u> made up of one or more mathematical <u>equations and/or logical relationships</u> that represent a system.

- It is used to <u>calculate an expected level</u> of manpower needed to generate <u>an estimated level</u> of required workload.
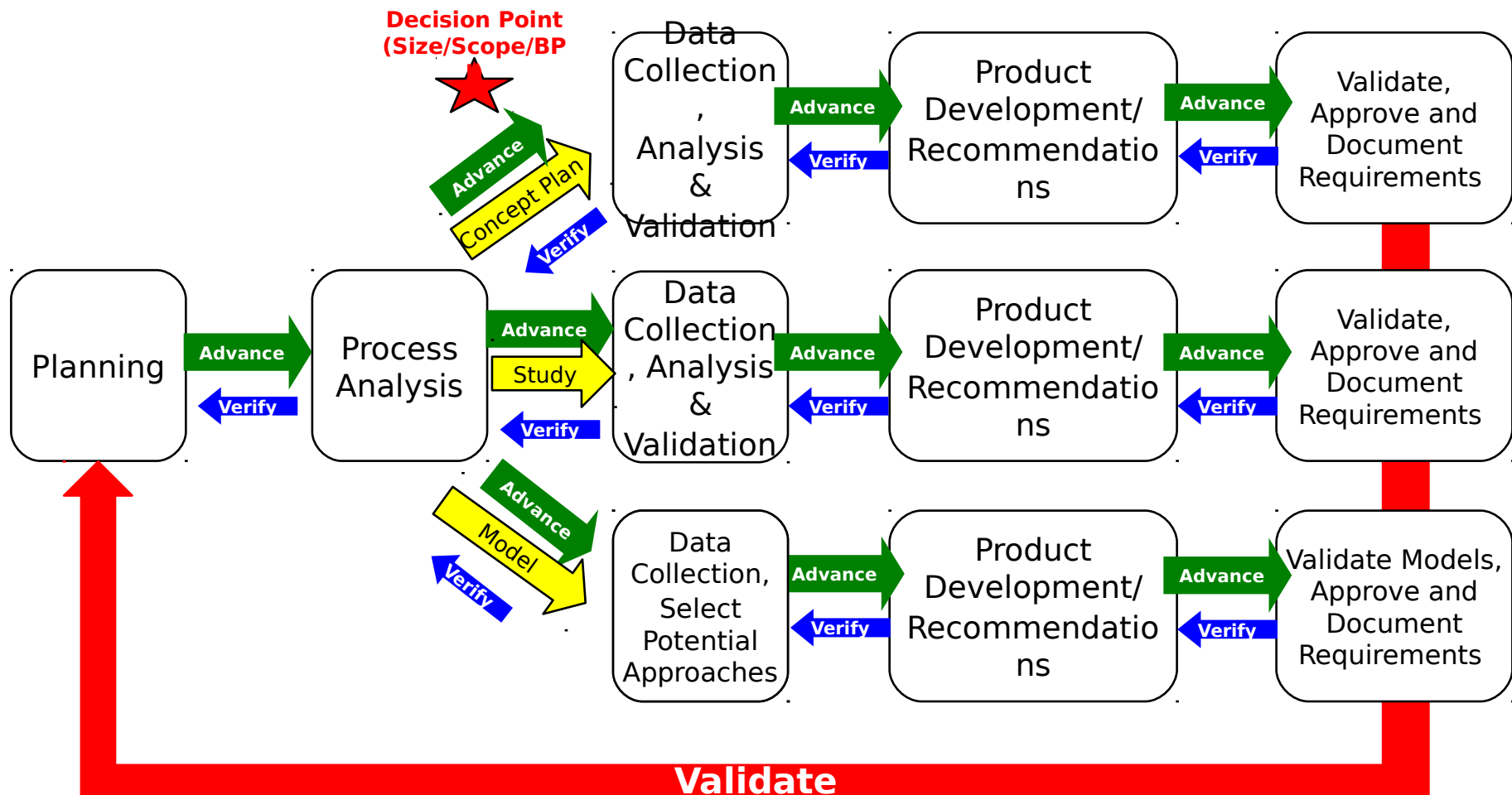
Common Misconceptions

- You need an ORSA to do modeling

- Modeling is hard

- My stuff is different

- USAMAA should just do the modeling
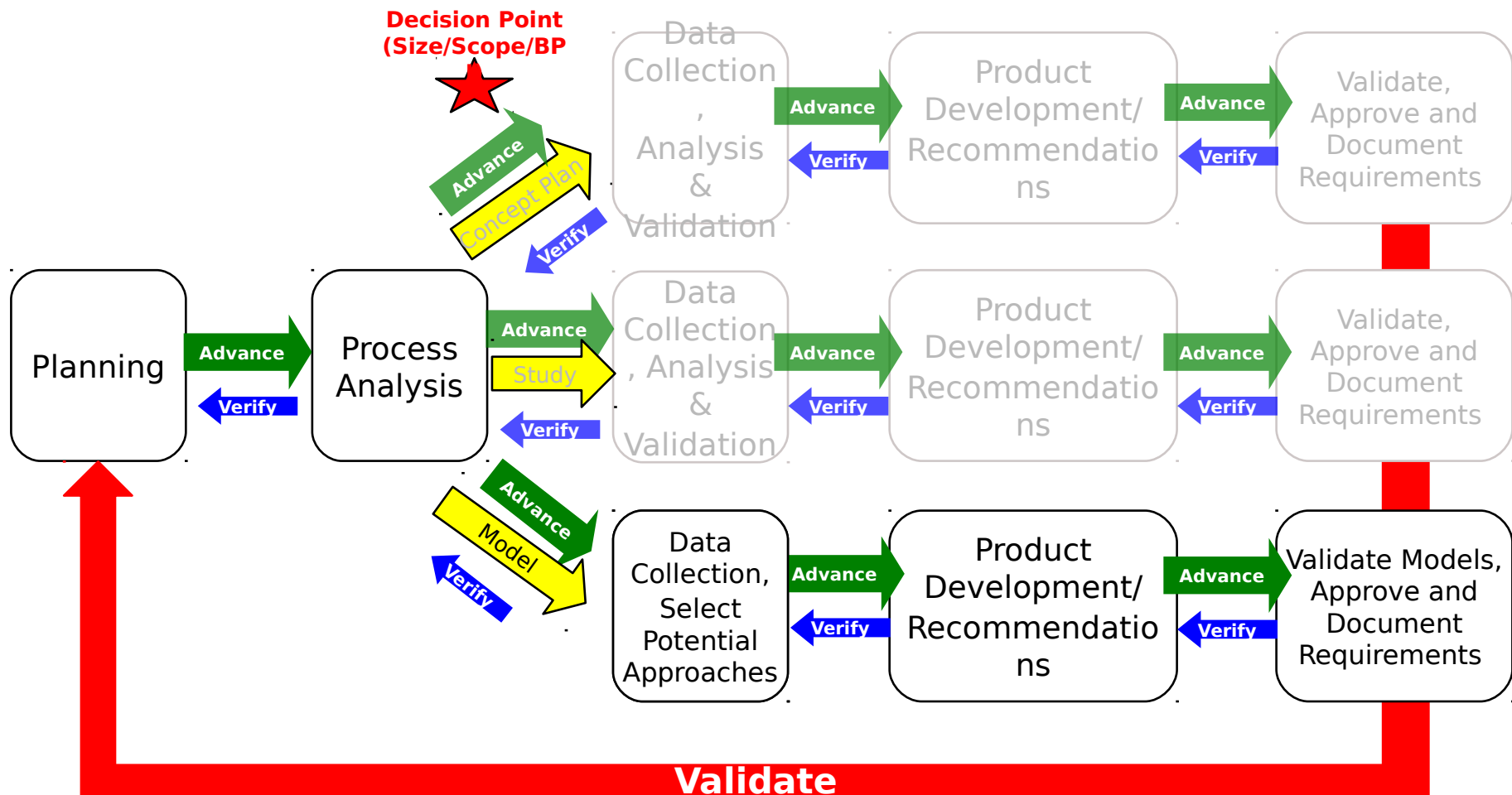
- We need to explicitly model every position

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Consolidated Manpower Requirements Determination Methodology

Decision Point (Size/Scope/BP

Advance

Concept Plan

Verify

| Data Collection, Analysis & Validation | **Advance** → **Verify** ← | Product Development/ Recommendations | **Advance** → **Verify** ← | Validate, Approve and Document Requirements |

| Planning | **Advance** → **Verify** ← | Process Analysis |

Advance

Study

Verify

| Data Collection, Analysis & Validation | **Advance** → **Verify** ← | Product Development/ Recommendations | **Advance** → **Verify** ← | Validate, Approve and Document Requirements |

Advance

Model

Verify

| Data Collection, Select Potential Approaches | **Advance** → **Verify** ← | Product Development/ Recommendations | **Advance** → **Verify** ← | Validate Models, Approve and Document Requirements |

Validate

Consolidated Manpower Requirements Determination Methodology

Decision Point (Size/Scope/BP)

Planning → Advance → Process Analysis → Advance (Concept Plan / Study / Model) → Data Collection, Analysis & Validation → Advance → Product Development/Recommendations → Advance → Validate, Approve and Document Requirements

Data Collection, Select Potential Approaches → Advance → Product Development/Recommendations → Advance → Validate Models, Approve and Document Requirements

Verify

Validate

Roles & Responsibilities

- USAMAA:
  - Provide overarching guidance for development of model
  - Provide in-process feedback to facilitate continuous verification
  - Provide final validation under regulatory authority
- Shared (between USAMAA and Organization):
  - Apply manpower analysis expertise
  - Execute Verification & Validation "legwork"
- Organization:
  - Execute model development
  - Provide majority of business process expertise
  - Maintain authoritative data sources and provide access

Continuous Collaboration Is Key To Success

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Key Concepts

- Methodology expands manpower community's analytical toolbox
  - Allows for alternative modeling approaches, and includes the power of simulations
  - Enables better sensitivity analyses to inform decision makers
  - Specifies conditions under which model should be applied
  - End result more complementary with other uses of information, such as LSS studies, organizational standardization and redesign

- Starts with analysis of the business processes, supported by statistical analyses

- Interaction with local functional experts critical to understanding business processes
  - Continuous verification improves overall product, streamlines delivery

- Authoritative data critical to creating a valid model

- Sharing responsibilities
  - Pushes responsibility closer to execution level, enlarges role of local expertise
  - Enables organizations with analytical capabilities to apply organic knowledge to solving local problems

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Questions?